

REMARKS

Summary of the Office Action

Claims 1-5 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Stark (U.S. Patent Application Pub. No. 2002/0186312) (hereinafter "Stark") in view of Trevino (U.S. Patent No. 6,856,349) (hereinafter "Trevino").

Summary of the Response to the Office Action

Applicants have amended independent claim 1 to differently describe embodiments of the disclosure of the instant application and/or to improve the form of the claims. Accordingly, claims 1-5 remain currently pending and under consideration.

Rejection under 35 U.S.C. § 103(a) and Statement of Substance of Examiner Interview

Claims 1-5 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Stark in view of Trevino. Applicants have amended independent claim 1 to differently describe embodiments of the disclosure of the instant application and/or to improve the form of the claims. To the extent that these rejections might be deemed to still apply to the claims as newly-amended, the rejections are respectfully traversed for at least the following reasons.

United States Patent and Trademark Office ("USPTO") Examiner Anthony J. Daniels is thanked for the courtesies extended to Applicants' undersigned representative in an Examiner Interview that was conducted by telephone on August 19, 2009. In the Examiner Interview, Applicants' undersigned representative explained two main technical assertions as will now be discussed in detail.

In particular, as to the first technical assertion, Applicants' undersigned representative explained in reference to the example of Fig. 1 of the instant application that the claimed output section (20), row selecting section (30), and column selecting section (40) are respectively arranged at a first-row side or an Mth-row side of the photodetecting section (11). Applicants' undersigned representative explained how the applied Stark reference does not show such a configuration. Applicants' undersigned representative explained how the arrangements of the instant application's disclosure have particular advantages as compared to the arrangement of Stark. For example, the arrangements of the instant application's disclosure are particularly effective when a plurality of solid-state image pickup apparatuses are two-dimensionally arranged. In this regard, as described in paragraphs [0033] and [0034] of the specification of the instant application, overall area efficiency can be improved.

Applicants' undersigned representative explained that, on the other hand, while the arrangement disclosed in Stark does show, in Fig. 6, a column selector 108 arranged at the Mth-row of the unit cell array 102, the line decoders 104 and 106 are arranged at the left and right sides, respectively, of the unit cell array 102. Accordingly, Applicants' undersigned representative explained to the Examiner that the line decoders 104 and 106 of Stark do not meet the claimed recitations of the "row selecting section being arranged at a first-row side or an Mth-row side of said photodetecting section." More particularly, the line decoders 104 and 106 of Stark are arranged at the first-column side and the Nth-column side of the unit cell array 102 while sandwiching the unit cell array 102. In the case where the configuration of Stark is adopted to each of a plurality of image pickup apparatuses to be two-dimensionally arranged as discussed previously, it is clear that an overall area efficiency significantly deteriorates because

the line decoders 104 and 106 each require a large setting area and are positioned between adjacent unit cell arrays 102.

During the Examiner Interview, the Examiner indicated an understanding of this particular point. However, the Examiner indicated that he believed that the feature of the “row selecting section being arranged at a first-row side or an Mth-row side of said photodetecting section” as currently recited in the claim could be interpreted broadly to still be met by the disclosure of Stark. Applicants’ undersigned representative expressed a disagreement in this regard for reasons as discussed previously. The Examiner responded that he would like to see this feature described more particularly in independent claim 1.

Accordingly, agreement was reached between Applicants’ undersigned representative and the Examiner that the currently-applied art of record would be overcome if independent claim 1 was amended, at the end of the claim, to additionally recite “, wherein the row selecting section is configured so as to be substantially parallel with the column selecting section.” Accordingly, Applicants have decided to proceed with this amendment approach in the manner discussed with the Examiner during the Examiner Interview. Accordingly, the currently-applied art of record should now be withdrawn as agreed to with the Examiner during the Examiner Interview.

Applicants’ undersigned representative then turned to a discussion of the above-mentioned second technical assertion with regard to the instant application. More particularly, Applicants’ undersigned representative explained in reference to the example of Fig. 1 of the instant application that the applied Trevino reference does not teach the claimed waveform shaping means as described in independent claim 1 of the instant application. Applicants’ undersigned representative explained that Applicants traverse the Office Action’s assertion that

the AND gate 38 of Trevino corresponds to the waveform shaping means of independent claim 1 of the instant application. More particularly, Applicants' undersigned representative explained that the AND gate 38 of Trevino performs an AND operation of the inputted address signal and the rowgen signal and outputs the rowgen signal (row 0). Accordingly, Applicants' undersigned representative explained that it is Applicants' position that the AND gate 38 of Trevino cannot be said to correspond to the claimed "waveform shaping means" of the instant application, but instead performs as a row selecting section. In this regard, Applicants' undersigned representative explained how it can be seen from Fig. 4 of Trevino that the waveforms of the inputted rowgen signal and the output signal row 0 are completely consistent with each other. In other words, no waveform shaping occurs in this arrangement of Trevino.

Applicants' undersigned representative went on to explain, on the other hand, that Fig. 3 of the instant application clearly shows that the claimed waveform shaping means of the instant application shapes the signal $S_{A,m}$ from the row selecting section in accordance with the timing of the gate signal and then outputs the shaped signal $S'_{A,m}$. In other words, Applicants' undersigned representative explained that the AND gate 38 of Trevino cannot be said to meet the waveform shaping means features of independent claim 1 of the instant application for at least the foregoing reasons.

During the Examiner Interview, the Examiner responded that any AND gate inherently performs some amount of waveshaping and thus the current form of the claim language of independent claim 1 in this regard can be broadly interpreted to be met by the AND gate 38 of Trevino. Even further, the Examiner noted that Fig. 2 of the instant application shows an AND gate as waveform shaping circuit $W_{1,m}$.

Applicants' undersigned representative explained in response that the inputs of the AND gate 38 of Trevino were different from the inputs of the AND gate shown in Fig. 2 of the instant application. More particularly, Applicants' undersigned representative reiterated the previously-explained technical point that the claimed waveform shaping means of the instant application shapes the signal $S_{A,m}$ from the row selecting section in accordance with the timing of the gate signal.

The Examiner responded that if such a feature were added to independent claim 1 of the instant application, then the currently applied art of record would likely be overcome. However, the Examiner indicated that he would first need to more closely review the disclosure of the instant application in this regard before reaching any official conclusions. Accordingly, Applicants have decided to even further amend independent claim 1 of the instant application to now also recite "wherein the waveform shaping means shapes the row selecting signal in accordance with a timing of a gate signal provided as an input signal in the waveform shaping means" along the lines of the discussion with the Examiner during the Examiner Interview.

Accordingly, Applicants respectfully assert that the rejections under 35 U.S.C. § 103(a) should be withdrawn because Stark and Trevino, whether taken separately or combined, do not teach or suggest each feature of newly-amended independent claim 1 of the instant application. As pointed out by MPEP § 2143.03, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." Since the prior art does not disclose or suggest any of the combinations recited in Applicants' claims, and if anything appears to teach away from the current claim recitations, KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727 (2007), Applicants submit that such

recited combinations would not have been obvious in view of the applied references of record, whether taken alone or combined in the manner suggested by the Examiner in the Office Action.

Furthermore, Applicants respectfully assert that the dependent claims 2-5 are allowable at least because of their dependence from newly-amended independent claim 1, and the reasons discussed previously.

CONCLUSION

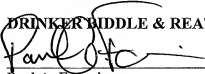
In view of the foregoing, Applicants submit that the pending claims are in condition for allowance, and respectfully request reconsideration and timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response; the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution. A favorable action is awaited.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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